Fig. 1.

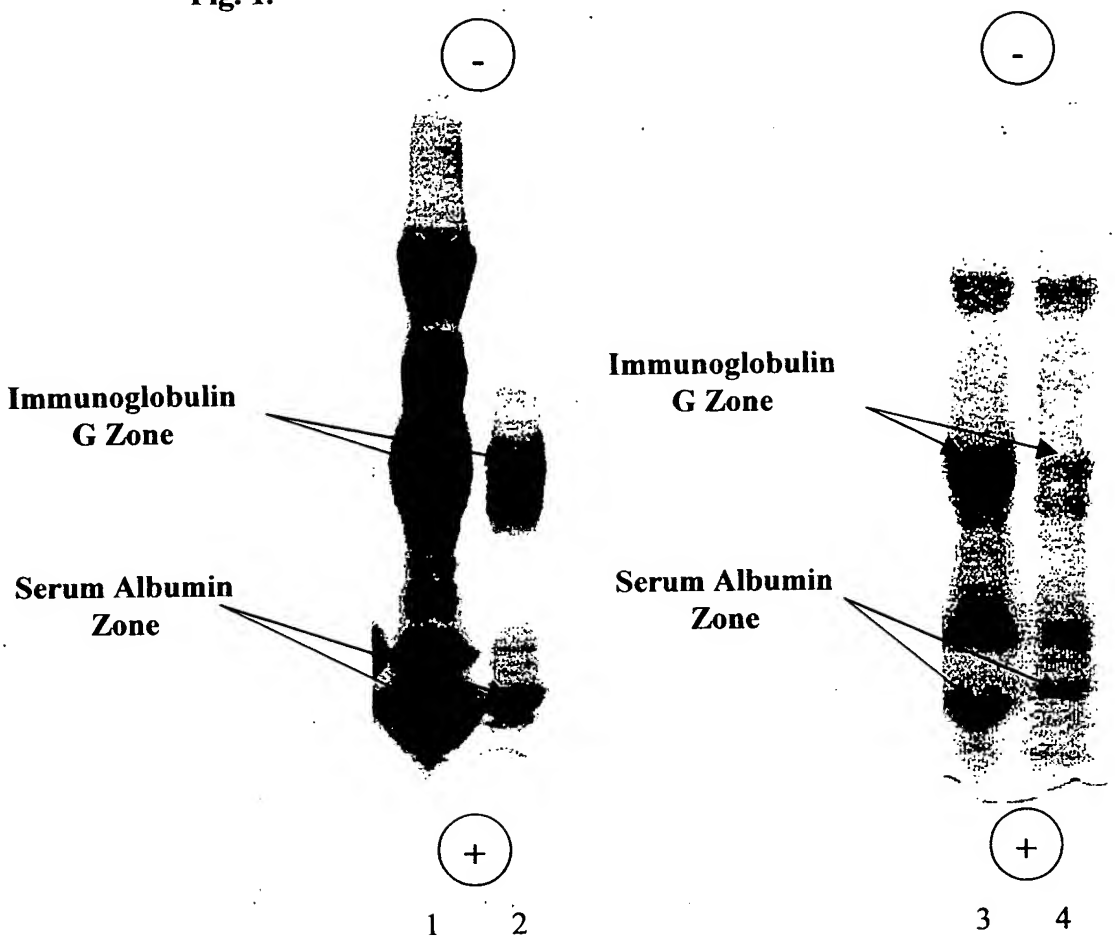
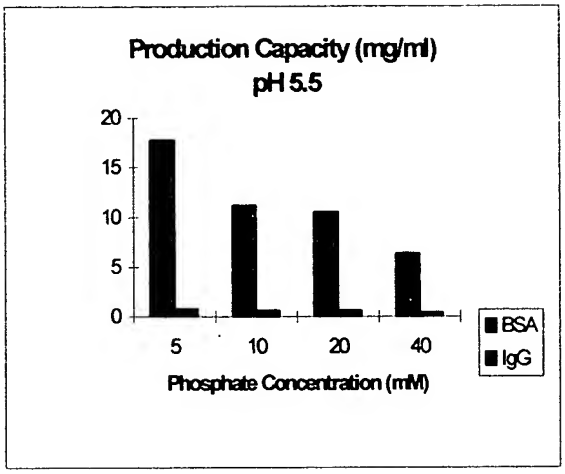
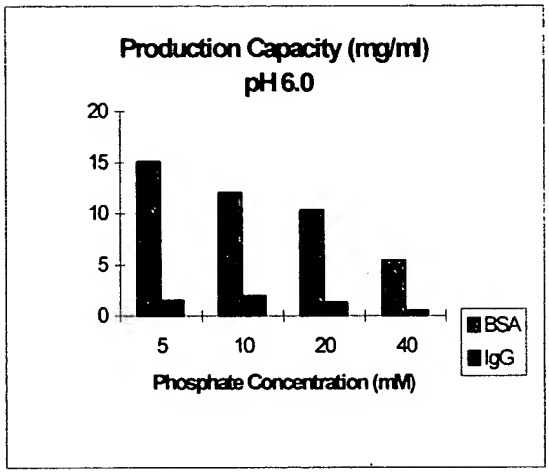
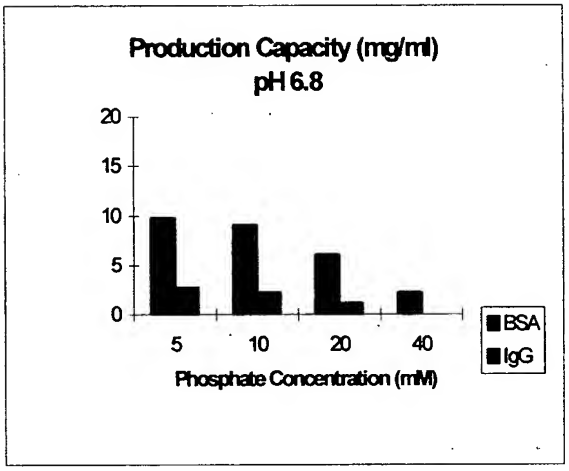

-
-
Immunoglobulin
G Zone
Serum Albumin
Zone
Immunoglobulin
G Zone
Serum Albumin
Zone
+
+
1
2
3
4

Fig. 2


Production Capacity (mg/ml)
pH 5.5
20
15
10
5
0
5
10
20
40
Phosphate Concentration (mM)
BSA
IgG


Production Capacity (mg/ml)
pH 6.0
20
15
10
5
0
5
10
20
40
Phosphate Concentration (mM)
BSA
IgG


Production Capacity (mg/ml)
pH 6.8
20
15
10
5
0
5
10
20
40
Phosphate Concentration (mM)
BSA
IgG

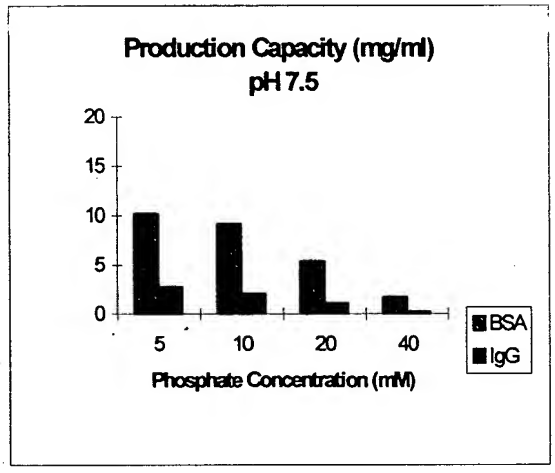

Production Capacity (mg/ml)
pH 7.5
20
15
10
5
0
5
10
20
40
Phosphate Concentration (mM)
BSA
IgG

Fig. 3.

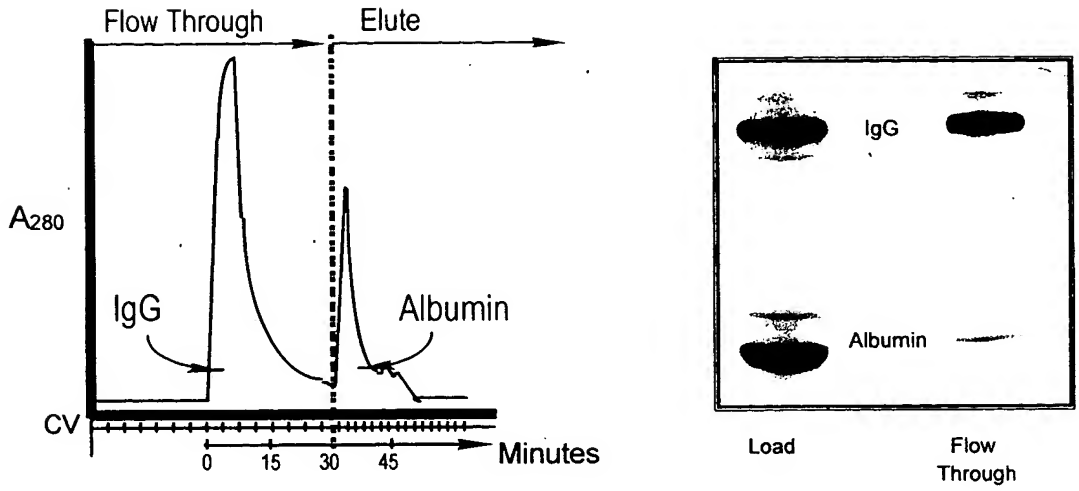
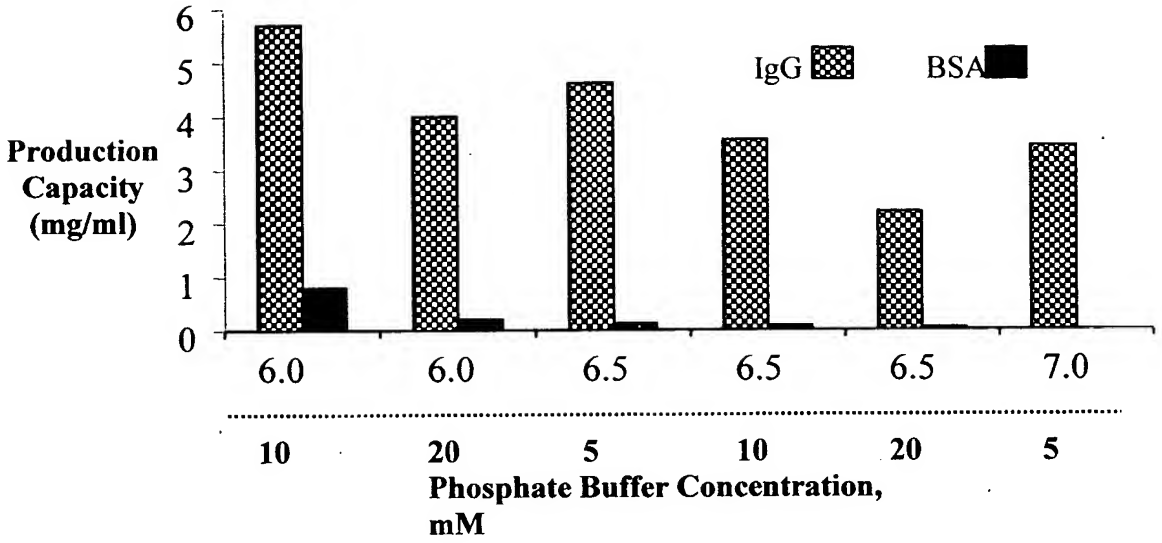
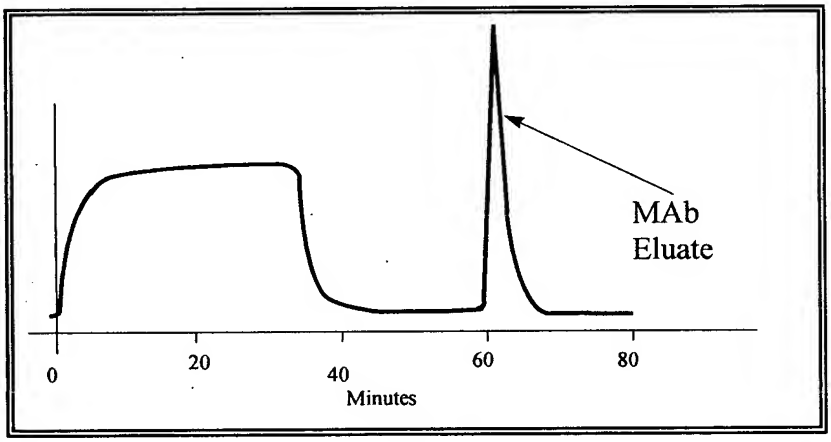

Flow Through
Elute
A280
IgG
Albumin
CV
0
15
30
45
Minutes
IgG
Albumin
Load
Flow
Through

Fig. 4.

A.


Production Capacity (mg/ml)
6
5
4
3
2
1
0
IgG
BSA
6.0
6.0
6.5
6.5
6.5
7.0
10
20
5
10
20
5
Phosphate Buffer Concentration, mM

B.


MAb Eluate
0
20
40
60
80
Minutes

C.

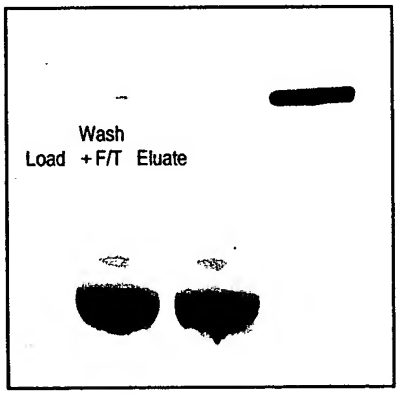

Wash
Load
+F/T
Eluate

Fig. 5.

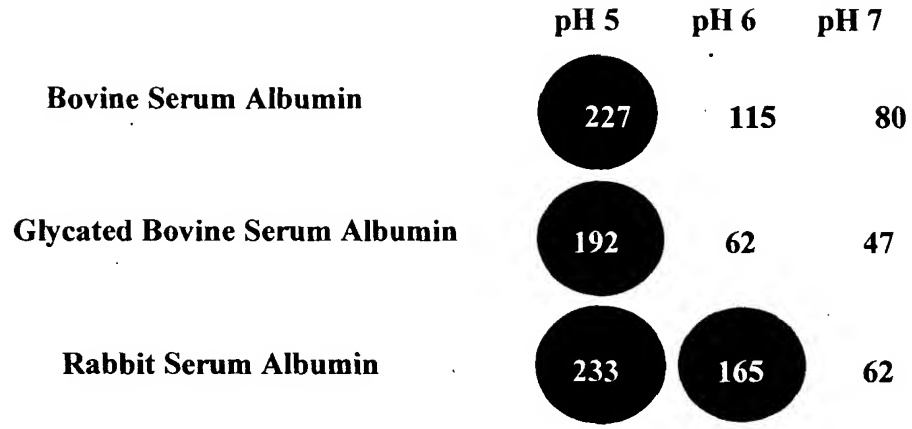

pH 5
pH 6
pH 7
Bovine Serum Albumin
227
115
80
Glycated Bovine Serum Albumin
192
62
47
Rabbit Serum Albumin
233
165
62

Fig. 6.

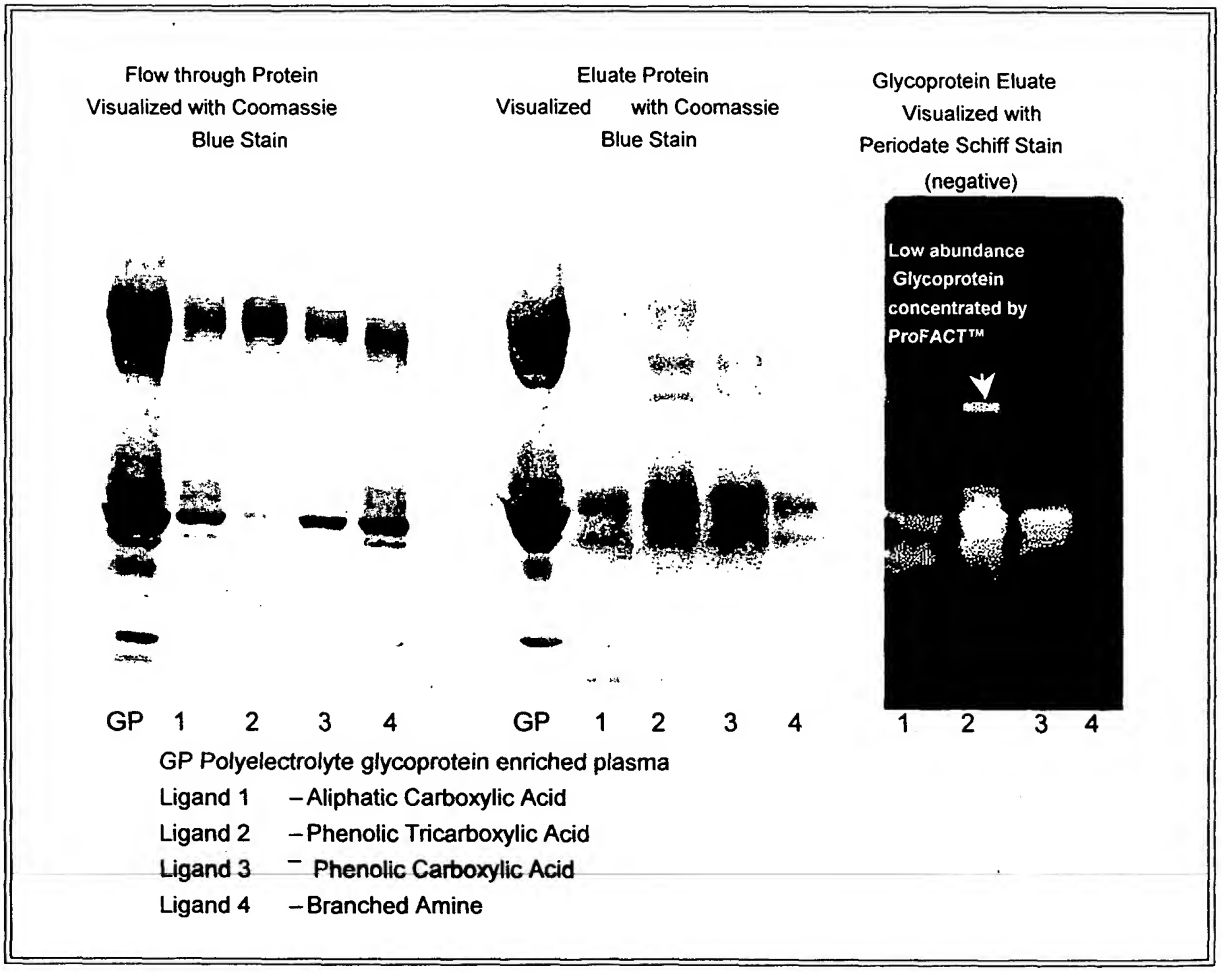
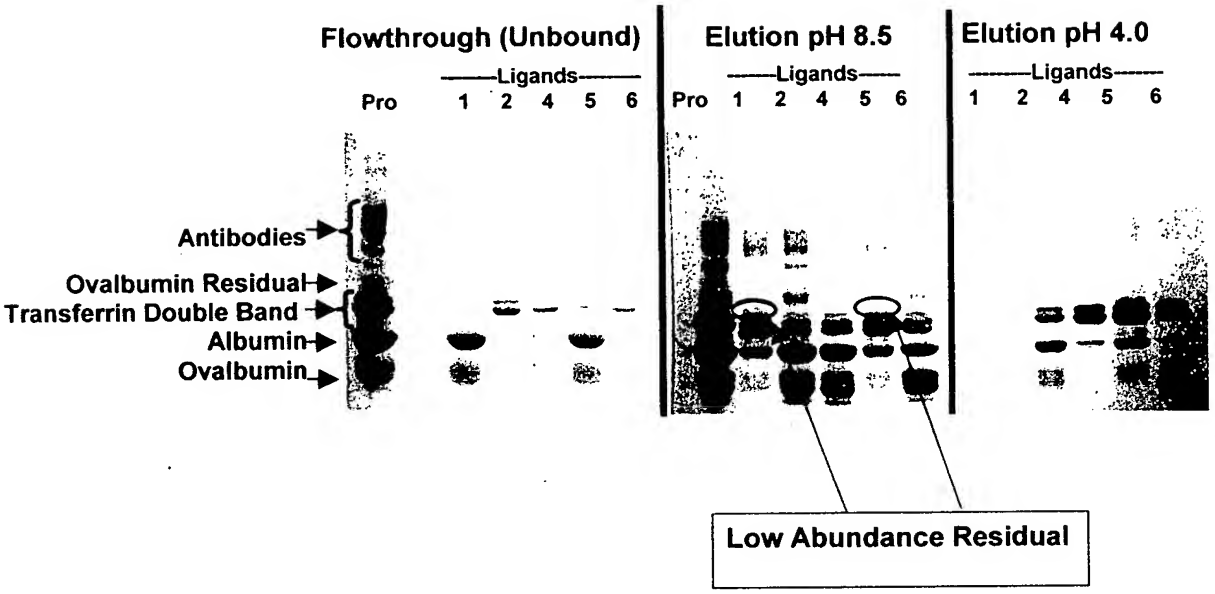

Flow through Protein
Visualized with Coomassie
Blue Stain
Eluate Protein
Visualized with Coomassie
Blue Stain
Glycoprotein Eluate
Visualized with
Periodate Schiff Stain
(negative)
Low abundance
Glycoprotein
concentrated by
ProFACT™
GP 1 2 3 4
GP 1 2 3 4
1 2 3 4
GP Polyelectrolyte glycoprotein enriched plasma
Ligand 1 – Aliphatic Carboxylic Acid
Ligand 2 – Phenolic Tricarboxylic Acid
Ligand 3 – Phenolic Carboxylic Acid
Ligand 4 – Branched Amine

Fig. 7.

A.


Flowthrough (Unbound)
Elution pH 8.5
Elution pH 4.0
Ligands
Pro 1 2 4 5 6
Antibodies
Ovalbumin Residual
Transferrin Double Band
Albumin
Ovalbumin
Low Abundance Residual

B

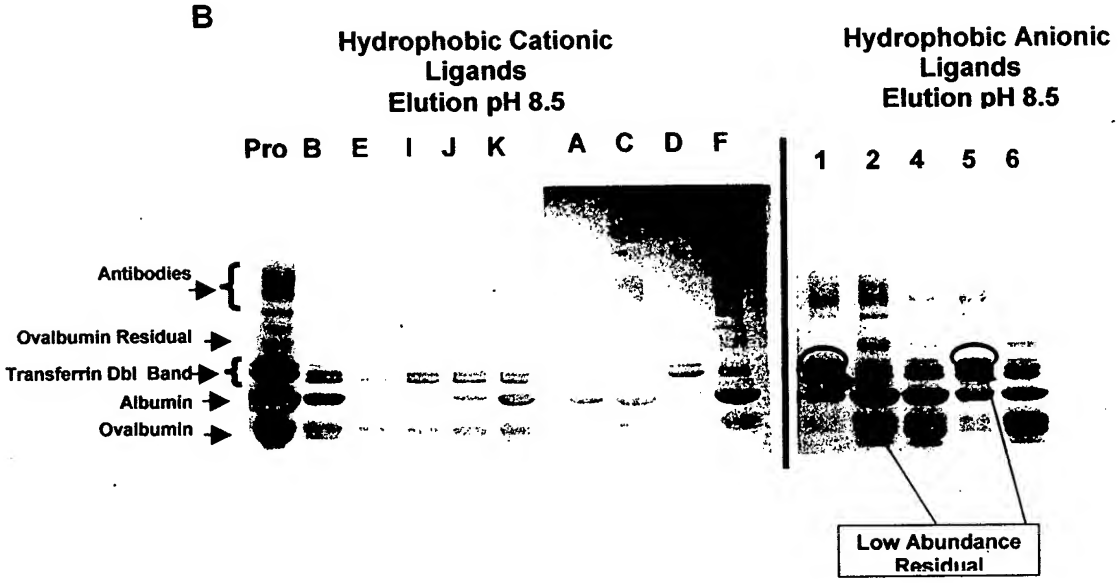
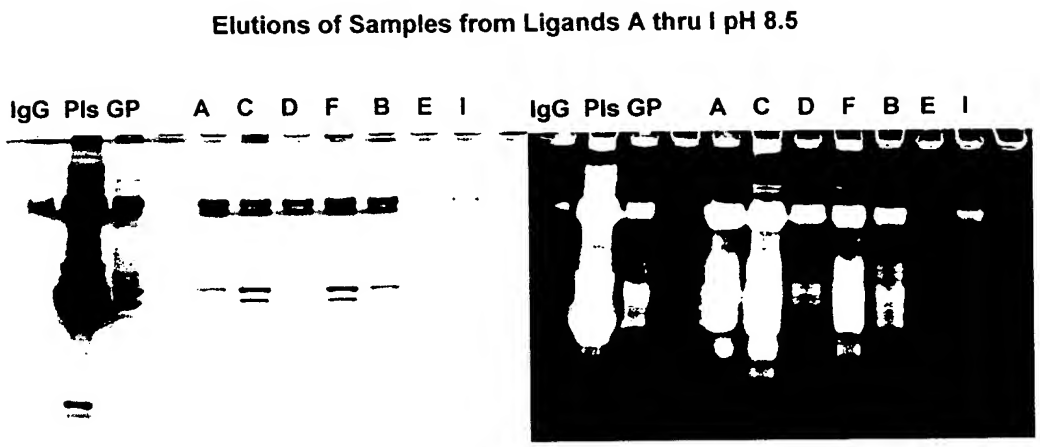

Hydrophobic Cationic Ligands Elution pH 8.5
Hydrophobic Anionic Ligands Elution pH 8.5
Pro B E I J K A C D F
1 2 4 5 6
Antibodies
Ovalbumin Residual
Transferrin Dbl Band
Albumin
Ovalbumin
Low Abundance Residual

Fig. 8.

A


Elutions of Samples from Ligands A thru I pH 8.5
IgG Pls GP A C D F B E I
IgG Pls GP A C D F B E I

B.

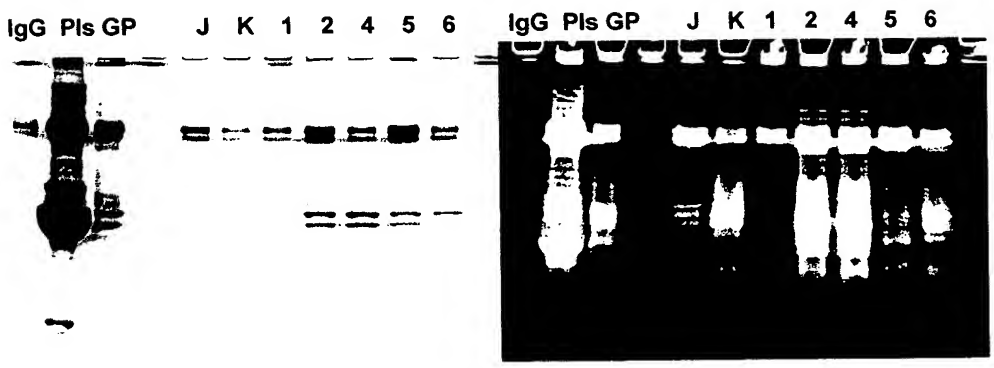
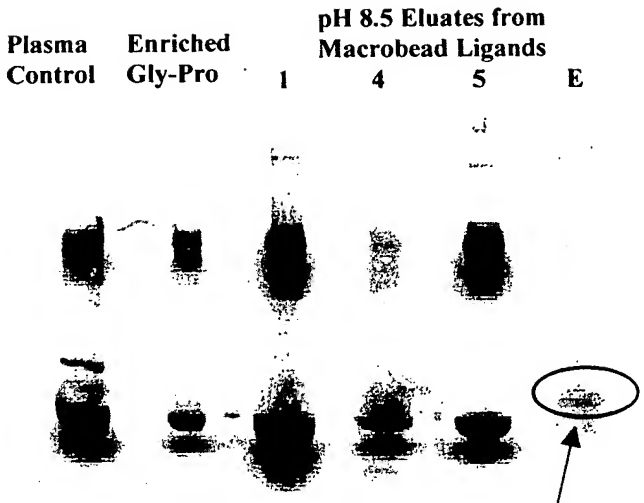

Elutions of Samples from Ligands 1,2,4,5,6 pH 8.5
IgG Pls GP J K 1 2 4 5 6
IgG Pls GP J K 1 2 4 5 6

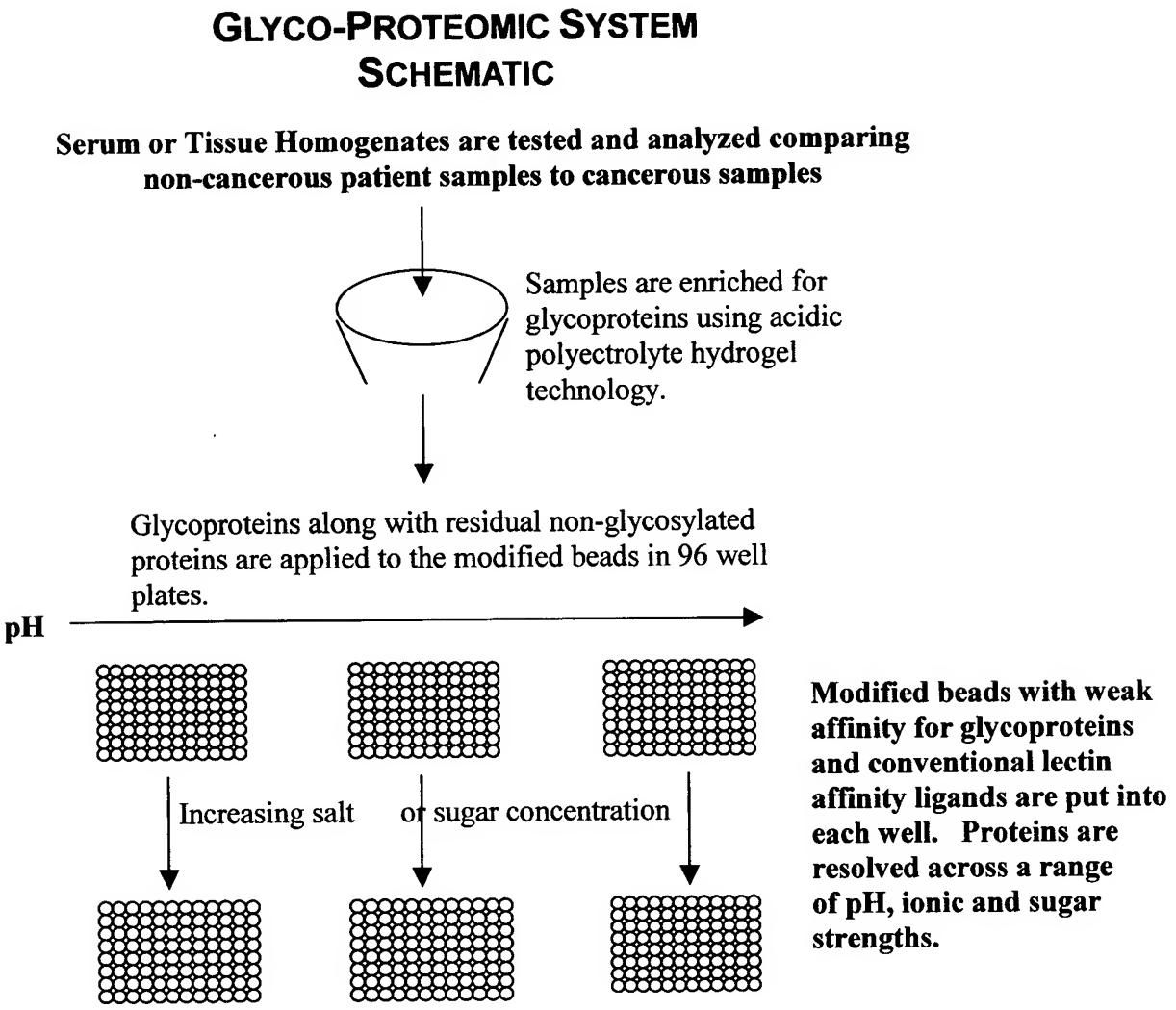
Fig. 9.



% HRP Activity Recovered	**93**	**23**	**2**	**1**	**1**
% Glycoprotein Recovered	**80**				
% Protein Recovered	**15**				

Low Abundance Glycoprotein

Fig. 10.


GLYCO-PROTEOMIC SYSTEM SCHEMATIC
Serum or Tissue Homogenates are tested and analyzed comparing non-cancerous patient samples to cancerous samples
Samples are enriched for glycoproteins using acidic polyectrolyte hydrogel technology.
Glycoproteins along with residual non-glycosylated proteins are applied to the modified beads in 96 well plates.
pH
Increasing salt or sugar concentration
Modified beads with weak affinity for glycoproteins and conventional lectin affinity ligands are put into each well. Proteins are resolved across a range of pH, ionic and sugar strengths.